To: Distribution

From: Chimwemwe Munthali, Technical Writer

Thru: Ernestine Bryant, STOrage and RETrieval (STORET), Project Manager (PjM), Solutions Development Center (SDC)

Subject: Minutes of STORET Change Control Board (CCB) Meeting

1.0 Purpose

A CCB Meeting was held on June 28, 2004 at the Solutions Delivery Center (SDC). The purpose of the meeting was to review and address the status of project activities including Software Incident Reports (SIRs), review and approve work products, and determine technical direction.

2.0 Attendees

Bryant, Ernestine - PjM
Christian, Kevin
King, Robert - Job Assignment Manager (JAM)
Kovatch, Charles
Markowitz, Jonathan - Acting Program Manager
McElhinney, Cary
Munthali, Chimwemwe
Norris, Blythe
Smith, Stephen
Wilson, Joseph

3.0 Discussion Topics

The discussion covered the following topics:

- SIRs.
- Visual Basic (VB) Reference Table Mock Ups.
- Central Warehouse.

- STORET Station Home Page.
- Beach Advisory and Closing Notification (BEACON) and STORET Linkage.
- Action Items/Next Steps.

3.1 Introduction

Attendees opened the meeting with a summary of project activities and the current status of action items. The team addressed responses to SIRs, and open action items, reviewed the outcome from previous meetings on the Central Warehouse, walked through Visual Basic design approach options for maintaining reference tables, and assessed requirements for linking BEACON and STORET. These minutes also include the decisions from meetings conducted June 17, 2004 and June 23, 2004. A summary of SIRs to date, and any associated decisions can be found in Attachment A. A summary of user supports activities can be found in Attachment B.

3.2 Report Module

Report SIRs were reviewed for disposition. The following existing SIRs were addressed:

- SIR 1074 - The design of the Station Summary Export report to include the Station Suspended Indicator Flag was approved. During analysis, areas were identified where performance could be improved and required system resources reduced to generate the report. The following time trials performed against Central Database data were conveyed:

  - ~ 134,000 Stations = ~7 min.
  - ~ 23,000 Stations = ~1 min.
  - ~ 50 - 100 Stations = ~5 sec.

  It was determined that report performance was currently sufficient and that no additional effort for improvement was required.

C SIR 1606 - The Environmental Protection Agency (EPA) Key Identifier was added to the Station Summary Export as a column immediately after the Station Name. The column title will be EPA Key ID.

- SIR 1224 - A report of chemical names will be created. The information will be provided as a preformatted report and a file export. Characteristic alias information will also be provided in the report. The preformatted and export Reference Table Chemical Names report designs were approved with the following minor changes:

  - Add “TSRCHAR” to the preformatted report title.
  - Orient the report landscape.
  - No user selection parameters are necessary.

The designs presented during this meeting are presented in Attachment C.

- SIR 1161 - Retrieved Binary Large Objects (BLOBs) will be confined to the client machine.

- A new SIR was created on June 23rd and allocated to the R2.0.4 release. This SIR will allow the R2.0.4 installation to create database objects for the Report Module. The installation will create and/or update the database objects supplied by the STORET v2.0 Compact Disks through and including the R2.0.4 release. The priority of this SIR was set to high.

B. King expressed a desire to start formulating a design for a Taxon Names report with taxonomy hierarchy.

3.3 VB Reference Table Mock Ups

The Project Team demonstrated some of the previously requested design changes to the Visual Basic Reference Tables application (e.g., 1024 x 768 screen resolution, list column width, sort capability). Re-query will be performed only after an insert, not after an update or delete.

The Project Team presented two additional design options for the Reference Tables application. The following two approaches were reviewed:

C Option 1: Uses a standard Windows look and feel with a Multiple Document Interface (MDI).

C Option 2: Uses a design similar to one used for the Web Registration Application.

Upon review, Option 1, the MDI approach was chosen. With this approach, the following design requirements were identified:

C There should be no restriction as to how many child forms will be open at a given time.

C Each data entry form should display a list of available records by default.

The options and corresponding screen shots are attached in Attachment D.

3.4 Central Warehouse

Tasks associated with the Central Warehouse were reviewed. Specifically, the Project Team has been analyzing Extract, Transform, Load (ETL) software for performance improvement, and began

implementing unit conversion.

The Project Team will execute the ETL software on EPA's test server during the month of July, prior to the next release. It is in this release that the Central Warehouse ETL will create and populate converted units and latitude/longitude data, and will utilize expanded Percent Free values for fact table storage and combine update statements that operate on identical tables. Long-term performance improvement strategies were also discussed including updating the Central Warehouse on an Organization by Organization basis and incorporating partitioning for fact tables. These options will be researched and discussed in greater detail at future meetings.

The following units will be considered unique in that they will not be converted to any other unit:

- pfu/100ml - Plaque Forming Units per 100 Milliliters.
- % CaCO3 - Percent calcium carbonate.
- mg/l CaCO3 - Milligrams per liter calcium carbonate.
- kg/t CaCO3 - Kilograms per Ton calcium carbonate.
- tCaCO3/Kt - Tons of calcium carbonate per kiloton.

Coordinate transformation between Datums was discussed and the following decisions made:

- Activity points and station points other than Point of Record (POR) are not assigned to a state and country in STORET. Conversions of North American Datum (NAD) 27 using Oracle Spatial require country and state information. The Station's POR state and country will be used for coordinate conversions of above mentioned points.

- State and country information is optional in STORET and some station POR entries do not have the data. Activity and station coordinates with no state/country information will be transferred to standard columns with no conversion.

The team reviewed the Warehouse Station Report for approval on the initial modifications, such as data model changes necessary to support Converted Result Value and Converted Latitude/Longitude retrieval. The column FK_STD_MAD_HDATUM in the table FA_STATION should be changed to FK_STD_HDATUM to be consistent with the column names in the Result fact tables. Additionally, updates have been made to report templates to include Converted Result Value and Converted Latitude/Longitude data elements.

The following changes were made to the Station Report Template:

- The report element Horizontal Datum was moved from the report element group Lat/Long Info to the report element group Latitude/Longitude.

- A new report element group titled Converted Latitude/Longitude was created with the report elements Converted Latitude, Converted Longitude, and Converted Horizontal

Datum. This new report element group will follow Latitude/Longitude in the Station Information section of the Station Report Template.

The following changes were made to the Result Report Templates:

- The report elements Station Latitude and Station Longitude were moved from the report element group Station Location Info to a new report element group titled Station Latitude/Longitude. The new report element Station Horizontal Datum was also added to this report element group. This new report element group will follow Station Location Info in the Basic Station Info section of all three Result Report Templates.

- A new report element group titled Converted Station Latitude/Longitude was created with the report elements Converted Station Latitude, Converted Station Longitude, and Converted Station Horizontal Datum. This new report element group will follow Station Latitude/Longitude in the Station Information section of all three Result Report Templates.

- The report elements Actual Activity Latitude and Actual Activity Longitude were moved to the new report element group titled Actual Activity Latitude/Longitude. The report element Horizontal Datum was moved to this report element group from the Additional Act Location Info group and renamed to Actual Activity Horizontal Datum. This new report element group will follow Actual Point Name in the Actual Activity Location Info section of all three Result Report Templates.

- A new report element group titled Converted Actual Activity Latitude/Longitude was created with the report elements Converted Actual Activity Latitude, Converted Actual Activity Longitude, and Converted Actual Activity Horizontal Datum. This new report element group will follow Actual Activity Latitude/Longitude in the Actual Activity Location section of all three Result Report Templates.

- Converted Result Value and Converted Result Unit will be added to the Basic Result Info section of all three Result Report Templates and will follow the data element Units.

The following changes were made to the Biological Result Template:

- The data elements Trawl Start Datum, Converted Trawl Start Latitude, Converted Trawl Start Longitude, and Converted Trawl Start Datum will be added to the Net Tow Info section following the data element Trawl Start Latitude. The data elements Trawl Stop Datum, Converted Trawl Stop Latitude, Converted Trawl Stop Longitude, and Converted Trawl Stop Datum will be added to the Net Tow Info section following the data element Trawl Stop Latitude.

Possible data element name abbreviations will be discussed further at the next meeting.

The presentation of Converted Result Values in reports was also discussed and the following decisions made:

C Converted Result Values will be displayed in scientific notation with 4 decimal places (for example 9.9999E-12).

C A Converted Result Value of NULL will be shown when RESULT_VALUE equals zero, but RESULT_VALUE_TEXT does not equal zero.

The approved changes made during this meeting are presented in the updated Element Layout attachments located in Attachment E.

3.5 BEACON and STORET Linkage

This discussion was intended to revisit the information needs of the BEACHES program for extracting data from STORET. The EPA BEACHES program website contains BEACON, which displays beach advisory data from the Program tracking, beach Advisory, Water quality standards and Nutrients (PRAWN) database. Representatives from both the BEACHES and STORET programs covered the following topics at a high level:

- Allowing users to go directly to Beaches data by selecting a beach related project ID (i.e. *EPABEACH*).

- Addressed an issue/potential error with accessing STORET data through a web application for a few organizations that are not using Project ID *EPABEACH*.

To facilitate a crosswalk between BEACON and STORET system elements, the Beaches Program will address data management issues.

4.0 Action Item Summary

Action items that emerged from this meeting included:

Number	Action Item	Assignment	Date Issued	Status	Date Completed
0001	Research VB.NET capabilities and provide response.	B. Norris	06/02/2004	Open	
0002	Provide STORET team with copy of Dasler software.	B. King	06/02/2004	Open	

Number	Action Item	Assignment	Date Issued	Status	Date Completed
0003	Provide BEACHES program with STORET architecture information (e.g., ERD, data definitions, etc.).	J. Wilson	06/28/2004	Open	
0004	Run new ETL software week of July 12th.	J.Wilson	06/28/2004	Open	
0005	Provide copy of email discussing required changes to implement URL encoding for the STORET Station Home Page.	B. Norris	06/14/2004	Open	

5.0 Next Meeting

The next meeting will be at 8:30 am, July 28, 2004 at the SDC.

6.0 Distribution

Name	Email
Bryant, Ernestine	
Christian, Kevin	Christian.Kevin@epamail.epa.gov
King, Robert	King.Robert@epamail.epa.gov
Manning, Lee	Manning.Lee@epamail.epa.gov
McElhinney, Cary	Mcelhinney.Cary@epa.gov
Szajgin, Tracey	

7.0 Approval of Minutes

_____ _____

Robert E. King Date
Job Assignment Manager

ATTACHMENT A

Reviewed SIRs

Software Incident Reports				**06/28/2004**
Release Version	**SIR Status**	**Date Initiated**	**SIR #**	**Description**
C2.0.3	Analysis	04 02 2004	1614	Add converted result values and units based on the unit conversion factors to result reports. Update the web interface to allow selection of converted values and units for inclusion in the report. The impacted reports are: - Result Results. - Biological Results. - Habitat Assessment Results.
C2.0.3	Analysis	06 17 2004	1617	Create ability to retrieve Station reports based on Organization ID and Station ID.
C2.0.3	Analysis	06 02 2004	1616	Add converted datums based on the Oracle Spatial conversion factors to result reports. Update the web interface to allow selection of converted datums for inclusion in the report. The impacted reports are: - Station Descriptions. - Result Results. - Biological Results. - Habitat Assessment Results.
C2.0.3	Int. Test	02 11 2004	1595	Add User Defined Habitat Assessment Characteristics to the STATION_CHAR table. This will make them visible via the Station Home Page Histogram.
C2.0.3	Construction	02 11 2004	1590	Replace "Compress Data File Now" button with hyper-linked text on the Download Results and Download Site Descriptions pages. Update page wording as requested by the client.
C2.0.3	Construction	03 18 2003	1449	Create data model structure and populate with target units and associated conversion factors.
C2.0.3	Int. Test	02 11 2004	1594	Flag Stations which are only associated with User-Defined Habitat Assessment activities as Visited.

Software Incident Reports				**06/28/2004**
Release Version	**SIR Status**	**Date Initiated**	**SIR #**	**Description**
C2.0.3	Construction	06 02 2004	1615	Create data model structure and populate with data converted from North American Datum (NAD) 27, World Geodetic System (WGS) 84, and WGS72
R2.0.4	Analysis	11 14 2001	1224	Create new report that displays Characteristic Details such as the alias and taxonomy information (if any) for selected characteristics in STORET. This is initially just a hit against reference table data. 05/12/2004 - Allocated to R2.0.4. All reference tables should be considered before final determination of the scope of this SIR. 06/23/2004 - Scope of this SIR changed to be: Create a preformatted report and an export report that provides chemical names with alias information.
R2.0.4	Analysis	07 31 2001	1161	Create ability to retrieve Binary Large Objects (BLOBs) via the Report Module. Associated with P2.0B.1 SIR 0698. 05/12/2004 - Allocated to R2.0.4. This functionality should be non-reliant on the Data Entry Module. 06/23/2004 - There is not to be any BLOB display component to this functionality.
R2.0.4	Construction	01 23 2001	1074	Export: Station Summary: Add the Suspended Status indicator field to the download. Column location to be determined. 05/12/2004 - Allocated to R2.0.4. 06/23/2004 - Design approved.

Software Incident Reports				**06/28/2004**
Release Version	**SIR Status**	**Date Initiated**	**SIR #**	**Description**
R2.0.4	Construction	05 12 2004	1606	Add EPA Key Identifier to one or more export reports. Specific reports and location to be determined. 05/12/2004 - Allocated to R2.0.4. 06/23/2004 - Design approved.
R2.0.4	New	06 23 2004	1618	Include scripts in the R2.0.4 installation that create database objects for the Report Module. The scripts will create the database objects supplied by the STORET v2.0 Compact Disks through and including the R2.0.4 release.
R2.0.4	New	05 15 2001	1120	Add the Permitted Value Description to some of the printed reports. The specific reports will be determined. 05/12/2004 - Allocated to R2.0.4.
T2.0.1	Construction	05 12 2004	1607	Create a Bio Part maintenance area that is compatible with the P2.0 database. Use Visual Basic for development. 06/01/2004 - Began design in Visual Basic. B. Norris
T2.0.1	Construction	11 18 1999	0813	Create a Method and Datum (TSMMAD) maintenance that is compatible with the P2.0 database. 05/12/2004 - Allocated to T2.0.1. CCB determined that this maintenance area would be developed using Visual Basic. 05/28/2004 - Began design in Visual Basic. B. Norris

Software Incident Reports				**06/28/2004**
Release Version	**SIR Status**	**Date Initiated**	**SIR #**	**Description**
T2.0.1	Construction	05 12 2004	1608	Create a Unit of Measure maintenance area that is compatible with the P2.0 database. Use Visual Basic for development. Incorporate data model changes and maintenance functionality associated with Unit Conversion. 05/17/2004 - Began design in Visual Basic. B. Norris
T2.0.1	Construction	05 12 2004	1609	Create a Sample Matrix maintenance area that is compatible with the P2.0 database. Use Visual Basic for development. 05/27/2004 - Began design in Visual Basic. B. Norris
T2.0.1	New	05 12 2004	1611	Create a Native American Land (NAL) maintenance area that is compatible with the P2.0 database. Use Visual Basic for development.
T2.0.1	New	05 12 2004	1612	Create a North American Industry Classification System (NAICS) maintenance area that is compatible with the P2.0 database. Need clarification of what type of maintenance mechanism should be employed (e.g., utility, direct data entry).
T2.0.1	New	05 12 2004	1610	Create a Station Type maintenance area that is compatible with the P2.0 database. Use Visual Basic for development.
E2.0.3	Completed	06 11 2004	1613	Ensure Station Summary information is displayed when the Station ID and Org ID are padded with spaces. This is represented as "%20" on the Uniform Resource Locator (URL).

Software Incident Reports				**06/28/2004**
Release Version	**SIR Status**	**Date Initiated**	**SIR #**	**Description**
P	New	05 12 2004	1605	P30 Field Procedure Maintenance List: The title of this window should be changed to P30 Sample Collection/Creation Procedure Maintenance List to match similar wording for P2 Field/Lab Analytical Procedure Maintenance List. Initial review shows that this impacts P31, FA7, FA8 and associated window button “Add Field Procedure”, User Guide, and Help. A complete impact analysis is still required.
P2.0.3	New	05 12 2004	1604	P21 Laboratory Maintenance List: Change hot keys to be unique. Buttons "Address" and "Delete" share the same hot key.

Legend for Release Version: System Letter is concatenated with Version Number.
System Letter Key:
C = Central Warehouse, E = Station Home Page, P = Data Entry Module, R = Report Module, T = Central Administration

ATTACHMENT B

User Support Log

User Support since May 1, 2004			
Date Received	**System**	**Issue**	**Response**
5/24/04	R2.0.2	05/24/2004 - When user selects Trips, more data is retrieving than for the selected Trip.	05/25/2004 - Examination of the TSRRPARM table revealed that the contents are correct. The Trip parameter should not be available for selection on the exports. Suggest inquiring with the user for more information about how the export is being generated with Trip selection.

ATTACHMENT C

Chemical Names Export & Printed Reports

Export: Reference Table Chemical Names

Report Description: This tilde-delimited export file report provides information regarding the Chemical Names available in the Reference Tables as maintained through the Central Administration Module. Characteristic and Characteristic Alias information is included in the report.

Select Logic:

Select Options: Characteristics

Sort Sequence: By ascending Characteristic Name, by ascending Alias Type, by ascending Alias Name/Code.

Page Break: None.

Report Heading	Prompt Name	Oracle Name
RT5 Non-Taxon Characteristic Data Entry		TSRCHAR
Name	Display Name	DISPLAY_NAME
RT7 Characteristic Alias Data Entry		TSRCHALS
Alias Name	Alias Name	NAME
RT57 Characteristic Alias Type Maintenance List		TSRCALT
Alias Type	Alias Type	TYPE_NAME

EXAMPLE

Table	Attribute	Column Name
TSRCHAR	DISPLAY_NAME	Name
TSRCALT	TYPE_NAME	Alias Type
TSRCHALS	NAME	Alias Name

Reference Table Chemical Names

Report Description: This report provides information regarding the Chemical Names available in the Reference Tables as maintained through the Central Administration Module. Characteristic and Characteristic Alias information is included in the report.

Column header repeats on each page.

Consecutive repetitions of Characteristic Name will be suppressed.

Special Separators
C Horizontal line from margin to margin under column header.

Select Logic:

Select Options: Characteristics

Sort Sequence: By ascending Characteristic Name, by ascending Alias Type, by ascending Alias Name/Code.

Page Break: None.

Report Heading	Prompt Name	Oracle Name
RT5 Non-Taxon Characteristic Data Entry		TSRCHAR
Name	Display Name	DISPLAY_NAME
RT7 Characteristic Alias Data Entry		TSRCHALS
Alias Name	Alias Name	NAME
RT57 Characteristic Alias Type Maintenance List		TSRCALT
Alias Type	Alias Type	TYPE_NAME

EXAMPLE

Reference Table Chemical Names June 28, 2004 15:37:20

Name	Alias Type	Alias Name
Maleic anhydride	CAS NUMBER	108-31-6 -- Maleic Anhydride
	STORET PARM CODE	78174 -- MALEIC ANHYDRID UG/L
	STORET PARM CODE	78865 -- MALEIC ANHYDRID SEDUG/KG
	STORET PARM CODE	79033 -- MALEIC ANHYDRID TISUG/KG
Resorcinol	CAS NUMBER	108-46-3 -- Resorcinol
	STORET PARM CODE	77164 -- RESORCIN TOTAL UG/L

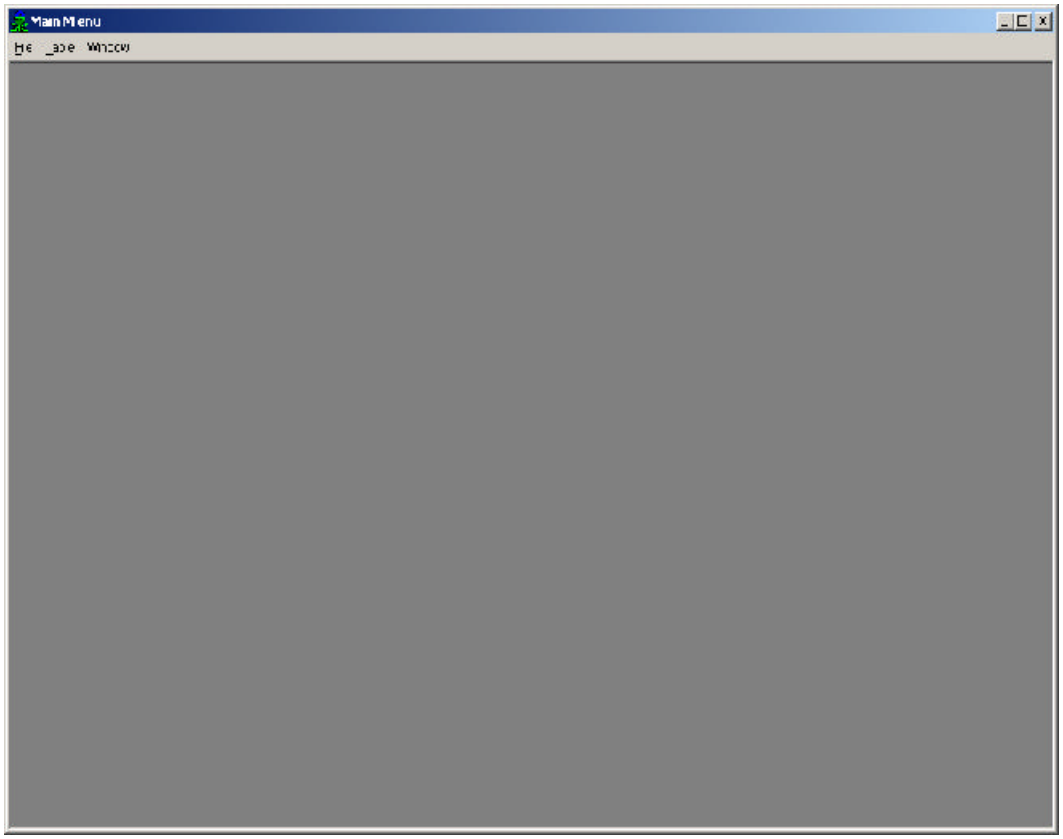
ATTACHMENT D

Visual Basic Reference Table Mock Ups

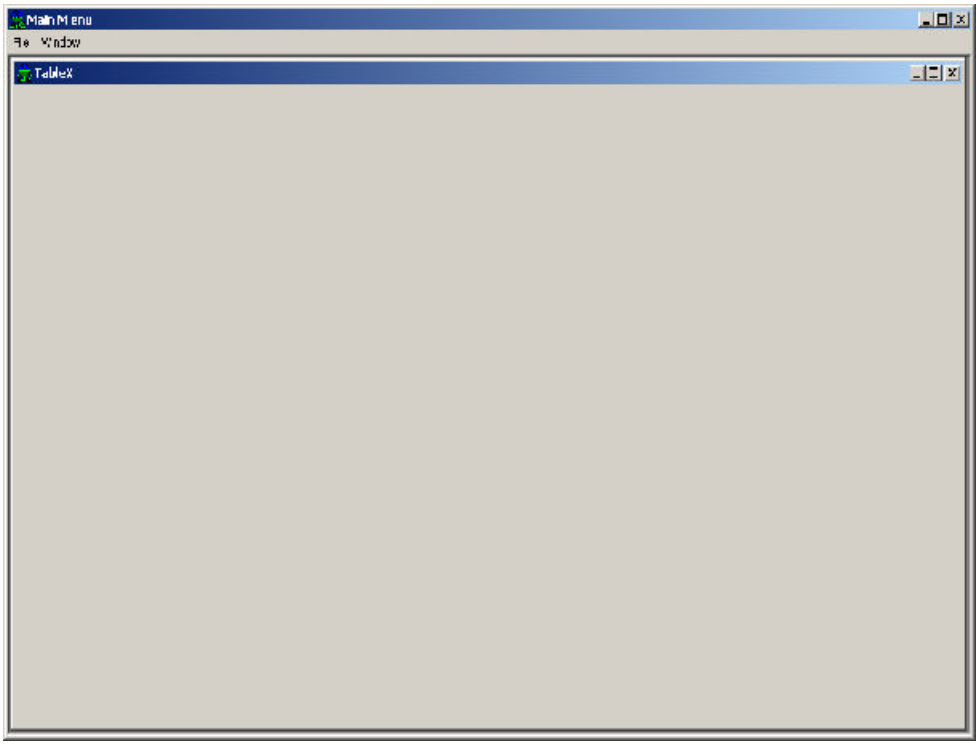
Another Design Approach: Use a standard Windows look and feel using a Multiple Document Interface (MDI).

Basic concept:

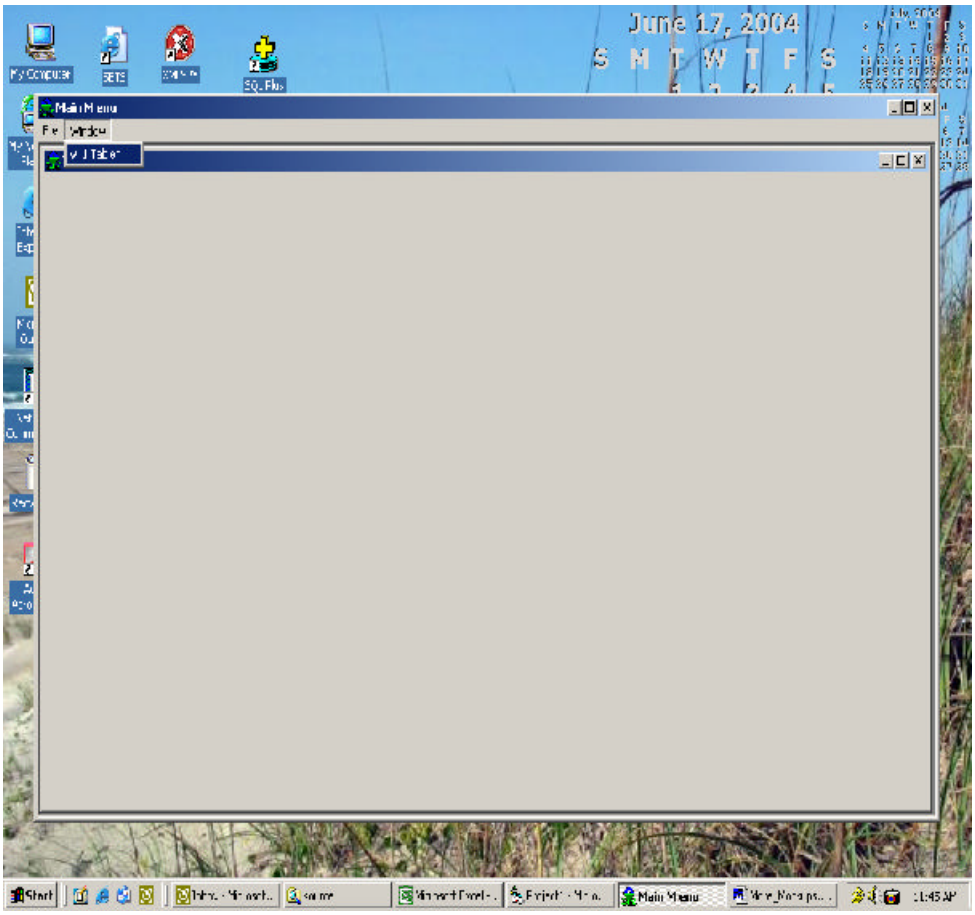
A single "parent" MDI Form (Main Menu):



With multiple MDI “child” forms (must be contained within the parent MDI form):



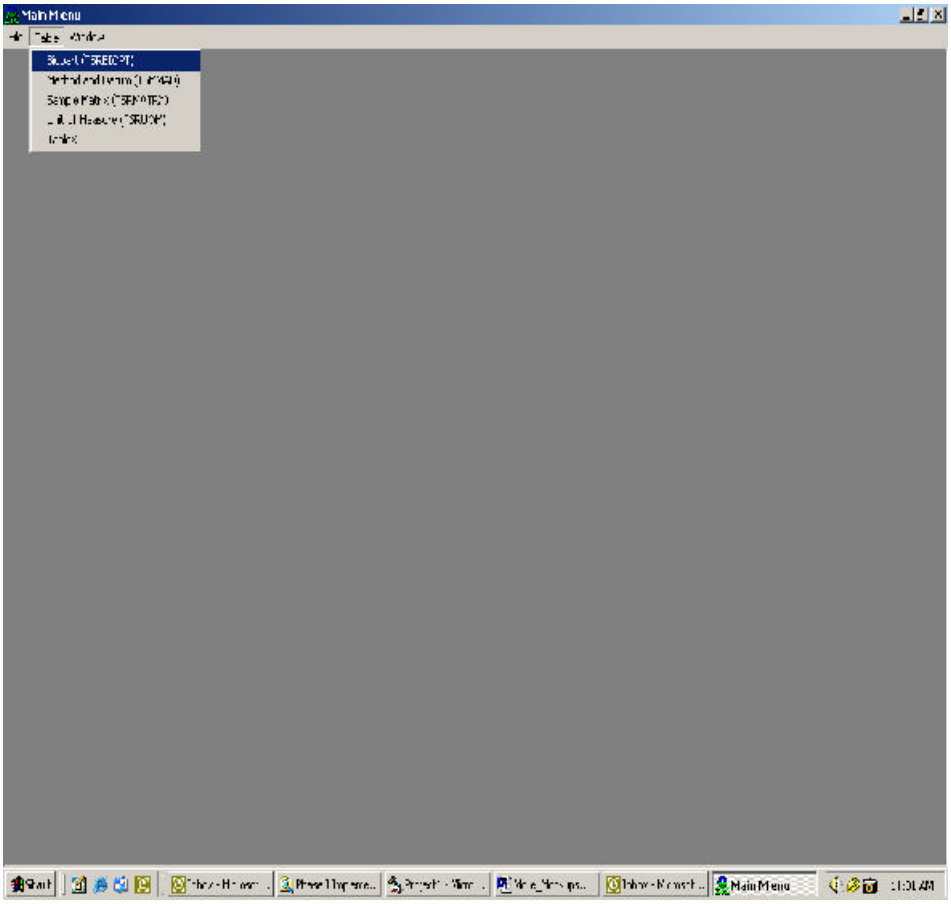
Window menu item will automatically list all “children” currently open for navigation:



Menu:

File – Exit
Table – lists all tables
Window – Tile Horizontally, Tile Vertically, Cascade, Arrange Icons

Open Biopart screen from main menu:

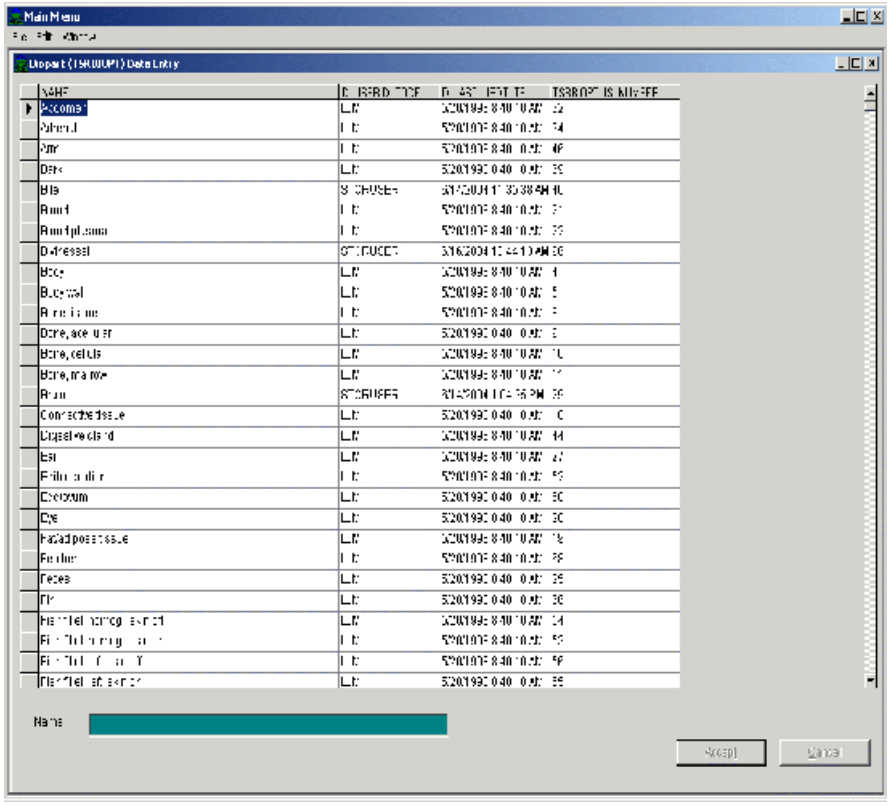


With this design, there is only one item in taskbar (main menu).

If develop separate menus for each child form (without a Table menu item), then we could prevent multiple child forms from being opened (more control).

Menu:

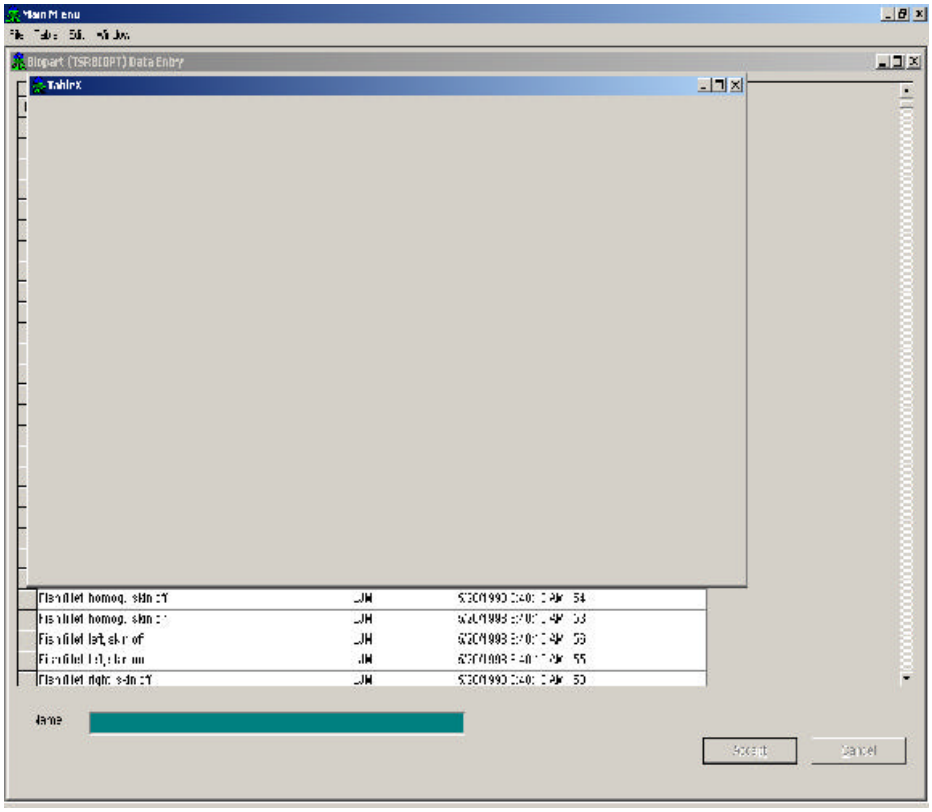
File – Exit
Edit – Insert, Update, Delete
Window – Tile Horizontally, Tile Vertically, Cascade, Arrange Icons, window(s) open



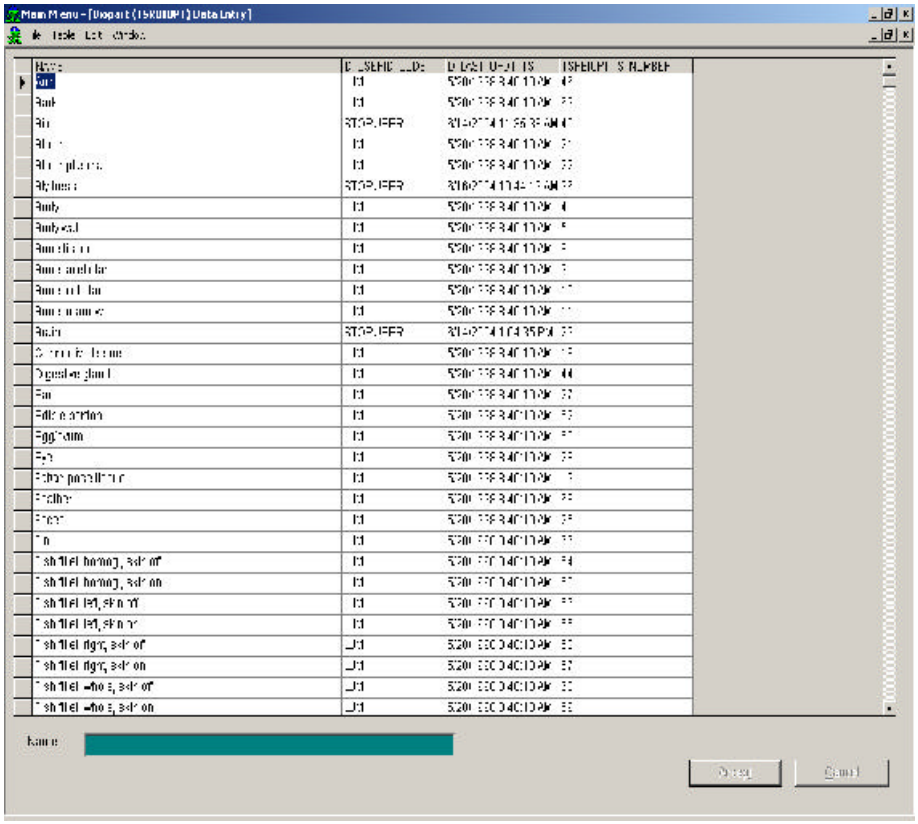
If multiple child forms are allowed, then either maintain separate Table menu item for each subform menu or maintain a single menu from the parent form.

Menu:

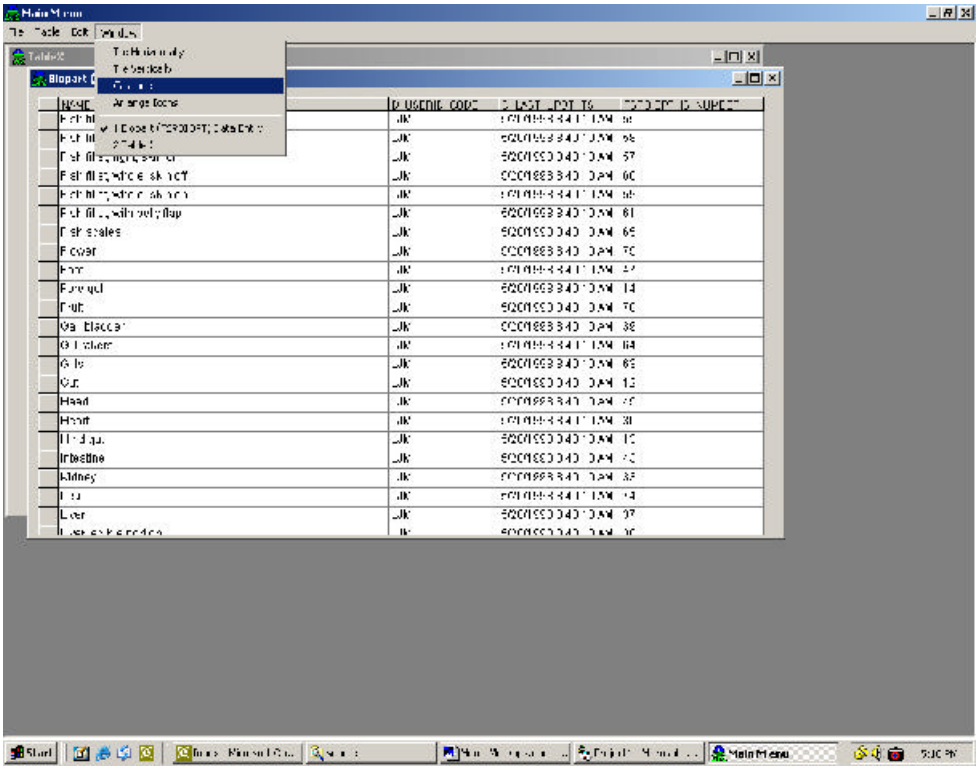
File – Exit
Table – lists all tables
Edit – Insert, Update, Delete
Window – Tile Horizontally, Tile Vertically, Cascade, Arrange Icons, window(s) open



If use a single menu from the parent form, then all control/logic of menu items is maintained on parent form (probably easier to maintain and prevents use of redundant logic). Only make Edit visible for a given maintenance area (not for the main menu).

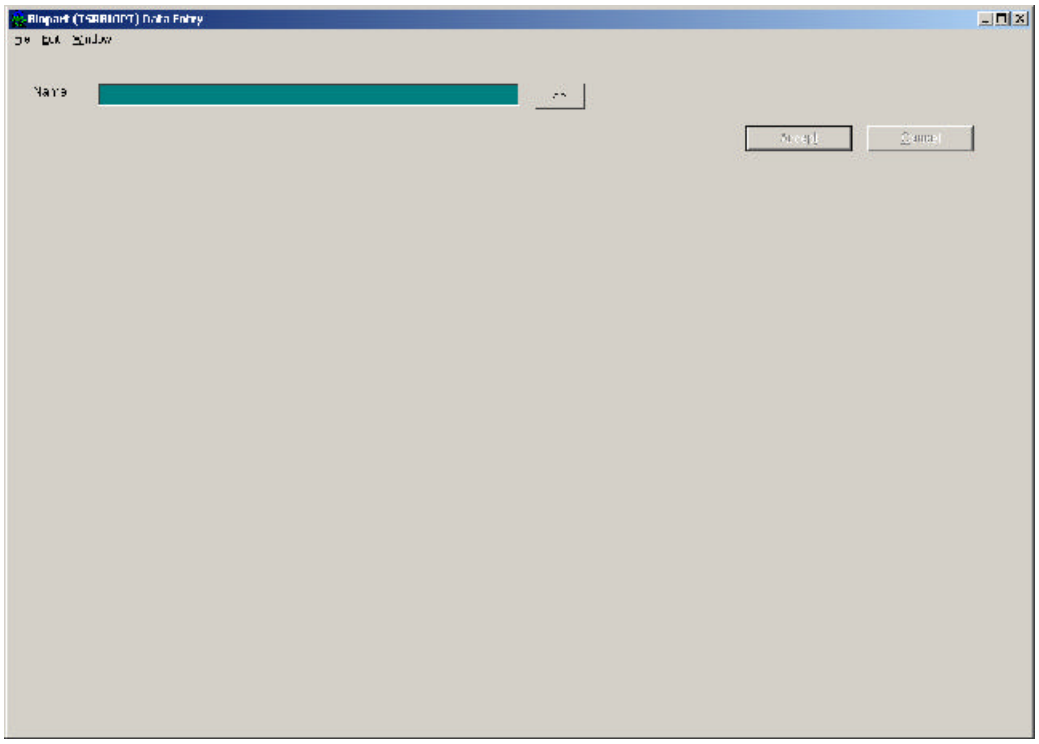


Maximize (full screen) main menu and child forms on open. However, they can be arranged via the standard Window options (e.g., Cascade):

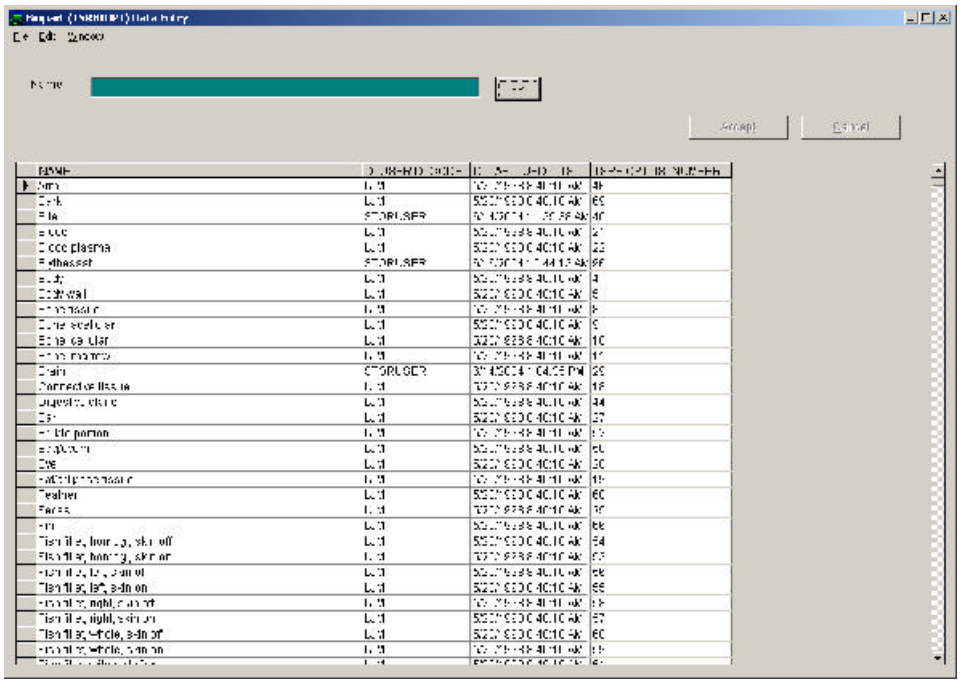


Another Data Entry Option: Use a design similar to one used for Web Registration Application.

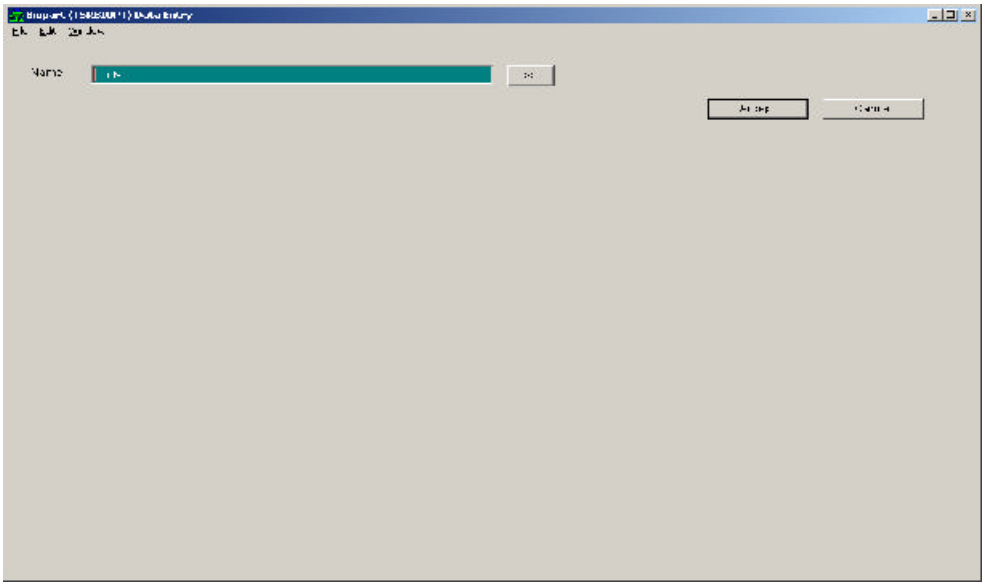
Idea: On open, all that is shown are the entry fields with keys (e.g., Prev/Next) to easily navigate from record to record plus a list of values button:



When the list of values button (“>>”) is pressed, the list will appear (below or popped up as a dependent subform) for selection and/or deletion. The >> would be disabled on Insert.



Once a record has been selected, the list disappears.



ATTACHMENT E

Warehouse Result Report Element Layout

Warehouse Station Report Element Layout

June 28, 2004

Station Information

- Org ID
- Station ID
- Station Name
- Org Name
- Primary Type
- Secondary Type
- S/G/O Indicator
- Well Number
- Well Name
- Pipe Number
- NAICS Code
- Spring Info
  - Spring Type Improvement
  - Permanence
  - USGS Geologic Unit Code-Name
  - Spring Other Name
  - USGS Lithologic Unit Code-Name
- Location Point Type
- Point Sequence Number
- Point Name
- Latitude/Longitude
  - Latitude
  - Longitude
  - Horizontal Datum
- Conv Latitude/Longitude
  - Converted Latitude
  - Converted Longitude
  - Converted Horizontal Datum
- Lat/Long Info
  - Geopositioning Method
  - Map Scale
- Elevation (w/ Units)
- Additional Elevation Info
  - Elevation Datum
  - Elevation Method
- Country Name
- State
- County
- Hydrologic Unit Code
- Hydrologic Unit Name
- RF1 Info
  - RF1 Segment Code
  - RF1 Segment Name
  - RF1 Mileage
  - On Reach Ind
- NRCS Watershed ID
- Estuary Info
  - Primary Estuary
  - Secondary Estuary
  - Other Estuary Name
- Great Lake Name
- Ocean Name
- Natv American Land Name
- FRS Key Identifier
- Station Document/Graphic Name
- Station Document/Graphic URL

Notes:

Underlined Elements are selected by Default

Warehouse Result Report Element Layout - Regular Results

June 28, 2004

Basic Org Info

- Org ID
- Org Name

Basic Station Info

- Station ID
- Station Name
- Station Location Info
  - State
  - County
  - HUC
- Station Lat/Long
  - Station Latitude
  - Station Longitude
  - Station Horizontal Datum
- Conv Station Lat/Long
  - Converted Station Latitude
  - Converted Station Longitude
  - Converted Station Horizontal Datum
- S/G/O Indicator

Station Visit Info

- Visit Num
- Visit Start
  - Visit Start
  - Zone
- Visit Stop
  - Visit Stop
  - Zone
- Trip ID
- Trip Name

Basic Activity Info

- Activity ID
- Activity Start
  - Activity Start
  - Zone
- Activity Stop
  - Activity Stop
  - Zone
- Activity Medium
- Activity Matrix
- Activity Type
- Activity Category-Rep Num
- Activity Intent
- Field Set

Actual Activity Location Info

- Actual Point Type
- Actual Point Sequence
- Actual Point Name
- Actual Activity Lat/Long
  - Actual Activity Latitude
  - Actual Activity Longitude
  - Actual Activity Horizontal Datum
- Conv Actual Activity Lat/Long
  - Converted Actual Activity Latitude
  - Converted Actual Activity Longitude
  - Converted Actual Activity Horizontal Datum
- Well Number
- Pipe Number
- Additional Act Location Info
  - Geopositioning Method
  - Map Scale

Activity Depth Info

- Activity Depth
- Activity Depth Unit
- Activity Upper Depth
- Activity Rel Depth
- Activity Lower Depth
- Upr Lwr Depth Unit

Activity Meta Data

- Sample Collection ID
- Field Gear ID
- Field Gear Config ID
- Sample Preservation
  - Container Desc
  - Temp Pres Type
  - Pres Storage Proc

Basic Result Info

- Portable Data Logger
- Characteristic Name
- CAS Num
- EPA Registry Num
- ITIS Num
- Sample Fraction
- Value Type
- Statistic Type
- Result Value as Text
- Result Value as Number
- Units
- Converted Result Value
- Converted Result Unit

Basic Result Info (Continued)

- Result Comment
- Result Free Text
- Weight Basis
- Temperature Basis
- Duration Basis
- Particle Size Basis
- Distance Measured From
- Distance Measured To

Analytical Proc. Info

- Analytical Proc. ID (w/ acronym)
- Additional Anal Proc Info
  - Detection Limit (w/ units)
  - Detection Limit Descript
  - Lower Quantification Limit
  - Upper Quantification Limit

Basic Lab Info

- Lab Remark
- Dilution Ind
- Recovery Ind
- Correction Ind
- Other Lab Info
  - Lab ID
  - Lab Name
  - Lab Cert
  - Lab Batch ID
  - Analysis Date
  - Zone

Result QA Info

- Num of Reps
- Precision
- Bias
- Conf Level
- Correction for Bias Ind

BLOB Info

- Result Document/Graphic Name
- Result Document/Graphic URL
- Activity Document/Graphic Name
- Activity Document/Graphic URL

Notes: Underlined Elements are selected by Default

Warehouse Result Report Element Layout - Habitat Results

June 28, 2004

Basic Org Info

- Org ID
- Org Name

Basic Station Info

- Station ID
- Station Name
- Station Location Info
  - State
  - County
  - HUC
- Station Lat/Long
  - Station Latitude
  - Station Longitude
  - Station Horizontal Datum
- Conv Station Lat/Long
  - Converted Station Latitude
  - Converted Station Longitude
  - Converted Station Horizontal Datum
- S/G/O Indicator

Station Visit Info

- Visit Num
- Visit Start
  - Visit Start
  - Zone
- Visit Stop
  - Visit Stop
  - Zone
- Trip ID
- Trip Name

Basic Activity Info

- Activity ID
- Activity Start
  - Activity Start
  - Zone
- Activity Stop
  - Activity Stop
  - Zone
- Activity Type
- Field Set

Actual Activity Location Info

- Actual Point Type
- Actual Point Sequence
- Actual Point Name
- Actual Activity Lat/Long
  - Actual Activity Latitude
  - Actual Activity Longitude
  - Actual Activity Horizontal Datum
- Conv Actual Activity Lat/Long
  - Converted Actual Activity Latitude
  - Converted Actual Activity Longitude
  - Converted Actual Activity Horizontal Datum
- Well Number
- Pipe Number
- Additional Act Location Info
  - Geopositioning Method
  - Map Scale

Basic Result Info

- Characteristic Name
- Habitat Class Name
- EPA Registry Num
- Sample Fraction
- Value Type
- Statistic Type
- Result Value as Text
- Result Value as Number
- Units
- Converted Result Value
- Converted Result Unit
- Result Comment
- Result Free Text
- Weight Basis
- Temperature Basis
- Duration Basis
- Distance Measured From
- Distance Measured To

Analytical Proc. Info

- Analytical Proc. ID (w/ acronym)
- Additional Anal Proc Info
  - Detection Limit
  - Detection Limit Descript
  - Lower Quantification Limit
  - Upper Quantification Limit

Basic Lab Info

- Lab Remark
- Dilution Ind
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- Correction Ind
- Other Lab Info
  - Lab ID
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Result QA Info

- Num of Reps
- Precision
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BLOB Info

- Result Document/Graphic Name
- Result Document/Graphic URL
- Activity Document/Graphic Name
- Activity Document/Graphic URL

Notes:

Underlined Elements are selected by Default

Warehouse Result Report Element Layout - Biological Results

June 28, 2004

Basic Org Info

- Org ID
- Org Name

Basic Station Info

- Station ID
- Station Name
- Station Location Info
  - State
  - County
  - HUC
- Station Lat/Long
  - Station Latitude
  - Station Longitude
  - Station Horizontal Datum
- Conv Station Lat/Long
  - Converted Station Latitude
  - Converted Station Longitude
  - Converted Station Horizontal Datum
- S/G/O Indicator

Station Visit Info

- Visit Num
- Visit Start
  - Visit Start
  - Zone
- Visit Stop
  - Visit Stop
  - Zone
- Trip ID
- Trip Name

Basic Activity Info

- Activity ID
- Activity Start
  - Activity Start
  - Zone
- Activity Stop
  - Activity Stop
  - Zone
- Activity Medium
- Activity Type
- Activity Category-Rep Num
- Activity Intent
- Community Sampled
- Subject Taxon
- Biopart
- Field Set

Actual Activity Location Info

- Actual Point Type
- Actual Point Sequence
- Actual Point Name
- Actual Activity Lat/Long
  - Actual Activity Latitude
  - Actual Activity Longitude
  - Actual Activity Horizontal Datum
- Conv Actual Activity Lat/Long
  - Converted Actual Activity Latitude
  - Converted Actual Activity Longitude
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Basic Result Info (Continued)

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- Temperature Basis
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  - Lab Name
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  - Analysis Date
  - Zone

Result QA Info

- Num of Reps
- Precision
- Bias
- Conf Level
- Correction for Bias Ind

Notes:

Underlined Elements are selected by Default

Warehouse Result Report Element Layout - Biological Results-Page 2

June 28, 2004

Net, Trawl, Electroshock Details

Net Tow Info

- Trawl Start Point Name
- Trawl Start Latitude
- Trawl Start Longitude
- Trawl Start Datum
- Conv Trawl Start Latitude
- Conv Trawl Start Longitude
- Conv Trawl Start Datum
- Trawl Start Depth (w/ units)
- Trawl Stop Point Name
- Trawl Stop Latitude
- Trawl Stop Longitude
- Trawl Stop Datum
- Conv Trawl Stop Latitude
- Conv Trawl Stop Longitude
- Conv Trawl Stop Datum
- Trawl Stop Depth (w/ units)
- Fished Duration Measure (w/ units)
- Boat Speed (w/ units)
- Fished Distance (w/ units)
- Rel Current Dir
- Rel Wind Dir
- Trawl Comment

Electroshock Info

- Voltage Measure
- Current Type Code
- Amperage Measure
- Pass Count
- Pass Length Measure (w/ units)
- Pulse Rate Measure
- Electroshock Comment
- Total Energzd Time (w/ units)

Net Non-Tow Info

- Sampling Duration (w/ units)
- Orientation to Current
- Rel Current Dir
- Rel Wind Dir
- Trap Net Comment

Bio Group Info

General Group Info

- Bio Result Group ID
- Bio Result Group Type
- Bio Result Group Subj Txn (w/ Species #)
- Bio Result Group Desc

Multi-Taxon Pop Census Info

- Feeding Group
- Pollution Tolerance
- Trophic Level
- Habit
- Voltinism
- Cell Shape
- Cell Form

Single Taxon Group Summary Info

- Number in Group
- Group Count Type

Single Taxon Frequency Class Info

- Phys/Bio Ind
- Bio Result Group ID (sex)
- Bio Result Group ID (lifestage)
- Bio Result Group Class Var
- Class Prim Desc
- Class Sec Desc
- Class Lower Bound
- Class Upper Bound
- Units

Single Taxon Individual Info

- Number in Group
- Bio Individual Number

BLOB Info

Result Document/Graphic Name
Result Document/Graphic URL
Activity Document/Graphic Name
Activity Document/Graphic URL

Notes:

<u>Underlined Elements</u> are selected by Default